

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

SK



UNITED STATES PATENT AND TRADEMARK OFFICE


UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,963	05/25/2001	Dean R.E. Long	SUN1P711/P5160	5972
22434	7590	07/01/2004	EXAMINER	
BEYER WEAVER & THOMAS LLP			CURCIO, JAMES A F	
P.O. BOX 778			ART UNIT	
BERKELEY, CA 94704-0778			PAPER NUMBER	
			2132	

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

Office Action Summary	Application No. 09/865,963	Applicant(s) LONG ET AL. 	
	Examiner James Curcio	Art Unit 2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20020910</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 1-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The term "minimized" in claims 1, 10, 11, and 12 is a relative term, which renders the claim indefinite. The term "minimized" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprized of the scope of the invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
5. Claims 1, 2, 3, 4, 5, 10, 11, and 12 rejected under 35 U.S.C. 102(e) as being anticipated by York et al (US006675371B1).
6. As per claims 1 and 12, York et al discloses a method and programmed instructions to enable the following steps:

Art Unit: 2132

- a. determining whether a native method is to be handled by a first native interface . . . (Fig. 1 – elements 100, 102, 104, 106, 112, 114, 116, 122, and associated text; Fig. 4 – elements 100, 150, 160, 170, 190, and associated text; Fig. 6 - element 230 and associated text; col. 2:65 to col. 3:17),
 - b. . . . invoking the method (Fig. 6 – elements 224, 226, and associated text; col. 3: 5-24; col. 5:3-20),
 - c. enabling the method to access an internal state of the Java virtual machine (Fig. 1 – elements 100, 101, 102, 104, 106, 108, 110, 112, 114, 122, and associated text; Fig. 6 – elements 224, 226, 228, 230, 234, 236, 238, 240, and associated text; col. 3:5-45; col. 5:49 to col. 6:5. Examiner interprets executing and performing tasks on the Java dialog, which operates in the JVM, to involve access to the internal state of the JVM.),
 - d. executing the method in the Java virtual machine (Fig. 1 – elements 100, 101, 108, 110, 112, 122, and associated text; Fig. 6 – elements 224, 226, 228, 230, 234, 236, 238, 240 and associated text; col. 3: 5-45; col. 5:49 to col. 6:5),
 - e. adjusting the state of the Java virtual machine . . . whereby transition between an interpreter loop and the native method . . . is minimized (Fig.1 – elements 100, 101, 108, 110, 112, 116, 122, and associated text; Fig. 6, elements 252, 254, 256, and associated text; col. 2:31-60; col. 3:24-45; col. 5:49 to col. 6:5. Examiner interprets executing and performing tasks on the Java dialog, which operates in the JVM, to involve adjusting the state of the JVM).
7. As per claim 11, York et al discloses the following system elements:

- f. a processor (Fig. 1 – element 120 and associated text),
 - g. a computer-readable medium storing a program for execution . . . (Fig. 1 – elements 126, 102, 104, 106, 114, 108, 110, 112, 116, 118, 100, 122, and associated text),
 - g. computer code that accomplishes that determines whether a native method is to be handled . . . , invokes the method and enables the method . . . , executes the method . . . , and adjusts the state of the JVM . . . (See 102(e) rejection of claims 1 and 12 above.).
- 8. As per claims 2 and 4, York et al discloses the classification of one or more native methods so that the one or more native methods qualify for being handled by the first native interface and discloses as well the examination of a method block of the native method to determine a method type (Fig. 1 – elements 100, 102, 104, 106, 112, 114, 116, 122, and associated text; Fig. 4 – elements 100, 150, 160, 170, 190, and associated text; Fig. 6 - element 230 and associated text; col. 2:65 to col. 3:17).
- 9. As per claim 3, York et al discloses no need to push a Java stack frame onto a Java stack, marshal one or more arguments and a method result from the Java stack to a C stack, marshal the method result from the C stack to the Java stack, and pop the Java stack from the Java stack in order to enable its disclosed invention. Examiner interprets that these needs are implicitly eliminated or obviated by the disclosed invention.
- 10. As per claim 5, York et al discloses steps for obtaining a function pointer from a method block (Fig. 6 – element 242 and associated text), invoking the native method

function (Fig. 6 – elements 224, 230, 234, and associated text), and passing to the native method function one or more arguments that allow access to a Java virtual machine state to be used by the native method without making callbacks to the Java virtual machine (Fig. 6 – elements 240, 250, 252, 254, 256, and associated text).

11. As per claim 10, York et al minimizes stack recursion in the Java virtual machine and reduces memory utilized by at least one stack while the Java virtual machine is executing (col. 2: 31-60 and Fig. 6).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 2, 3, 4, 5, 6, 10, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over York et al (US006675371B1), and further in view of Brown et al (US006295643B1).

14. As per claims 1 and 12, York et al discloses a method and programmed instructions to enable the following steps:

h. determining whether a native method is to be handled by a first native interface . . . (Fig. 1 – elements 100, 102, 104, 106, 112, 114, 116, 122, and associated text; Fig. 4 – elements 100, 150, 160, 170, 190, and associated text; Fig. 6 - element 230 and associated text; col. 2:65 to col. 3:17 in York et al),

- i. . . . invoking the method (Fig. 6 – elements 224, 226, and associated text; col. 3: 5-24; col. 5:3-20 in York et al),
- j. enabling the method to access the Java virtual machine (Fig. 1 – elements 100, 101, 102, 104, 106, 108, 110, 112, 114, 122, and associated text; Fig. 6 – elements 224, 226, 228, 230, 234, 236, 238, 240, and associated text; col. 3:5-45; col. 5:49 to col. 6:5 in York et al),
- k. executing the method in the Java virtual machine (Fig. 1 – elements 100, 101, 108, 110, 112, 122, and associated text; Fig. 6 – elements 224, 226, 228, 230, 234, 236, 238, 240 and associated text; col. 3: 5-45; col. 5:49 to col. 6:5 in York et al),
- l. adjusting the Java virtual machine . . . whereby transition between an interpreter loop and the native method . . . is minimized (Fig. 1 – elements 100, 101, 108, 110, 112, 116, 122, and associated text; Fig. 6, elements 252, 254, 256, and associated text; col. 2:31-60; col. 3:24-45; col. 5:49 to col. 6:5 in York et al)

Examiner earlier interprets York et al as containing these features. In an alternative interpretation, York et al does not explicitly disclose that the method can access or adjust an internal state of the Java virtual machine.

However, Brown et al contains explicit discussion of these features (Brown et al – col. 3:65 to col. 4:10; col. 4: 29-31; col. 7:24-30; col. 7:52 to col. 8:15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify York et al by having the method access and adjust the internal state of the Java virtual machine as per the teachings of Brown et al.

One of ordinary skill in the art would have been motivated to do so in order to "improve the performance of an application using a Java Virtual Machine" (col. 3:65 to col. 4:10).

15. As per claim 11, York et al discloses the following system elements:
 - m. a processor (Fig. 1 – element 120 and associated text in York et al),
 - n. a computer-readable medium storing a program for execution . . . (Fig. 1 – elements 126, 102, 104, 106, 114, 108, 110, 112, 116, 118, 100, 122, and associated text in York et al),
 - g. computer code that accomplishes that determines whether a native method is to be handled . . . , invokes the method and enables the method . . . , executes the method . . . , and adjusts the state of the JVM . . . (See 103(a) rejection of claims 1 and 12 above).
16. As per claims 2 and 4, York et al discloses the classification of one or more native methods so that the one or more native methods qualify for being handled by the first native interface and discloses as well the examination of a method block of the native method to determine a method type (Fig. 1 – elements 100, 102, 104, 106, 112, 114, 116, 122, and associated text; Fig. 4 – elements 100, 150, 160, 170, 190, and

associated text; Fig. 6 - element 230 and associated text; col. 2:65 to col. 3:17 in York et al).

17. As per claim 3, York et al discloses steps to push a Java stack frame onto a Java stack, marshal one or more arguments and a method result from the Java stack to a C stack, marshal the method result from the C stack to the Java stack, and pop the Java stack from the Java stack in order to enable its disclosed invention (col. 1 to 15 in York et al). Examiner interprets that the omission of such steps from York et al implies that these steps are not necessary for the enablement of York et al's invention. Therefore, the needs described in claim 3 are implicitly eliminated or obviated by the disclosed invention.

18. As per claim 5, York et al discloses steps for obtaining a function pointer from a method block (Fig. 6 – element 242 and associated text), invoking the native method function (Fig. 6 – elements 224, 230, 234, and associated text), and passing to the native method function one or more arguments that allow access to a Java virtual machine state to be used by the native method without making callbacks to the Java virtual machine (Fig. 6 – elements 240, 250, 252, 254, 256, and associated text in York et al).

19. As per claim 6, in addition to the teachings applied above, York et al fails to expressly disclose passing to the native method a pointer to arguments on a Java stack and passing to the native method a pointer to a method block pointer, such that a new method block pointer can be returned to the interpreter loop. However, Examiner takes Official Notice that these features are well known in the art (e.g. The C++ Programming

Language 3rd Edition by Bjarne Stroustrup). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify York et al by including steps for passing to the native method a pointer to arguments on a Java stack and passing to the native method a pointer to a method block pointer, such that a new method block pointer can be returned to the interpreter loop. One of ordinary skill in the art would have been motivated to do so in order to enable the native method to access the arguments on the Java stack and to invoke the method pointed to by the pointer to the method block.

20. As per claim 10, York et al minimizes stack recursion in the Java virtual machine and reduces memory utilized by at least one stack while the Java virtual machine is executing (col. 2: 31-60 and Fig. 6 in York et al).

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Curcio whose telephone number is 703-305-8887. The examiner can normally be reached on Tuesday to Friday from 7 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam, can be reached on Monday through Friday from 8:30 am to 4:30 pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2132

Status information for unpublished applications is available through Private PAIR only.

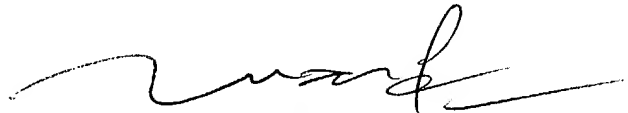
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



June 16, 2004

AU 2122

JC



TUAN DAM
SUPERVISORY PATENT EXAMINER